



Requirements Document

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Safety Showers and Eyewashes

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<h2>Administrative Use</h2>

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1.0 INTRODUCTION

1.1 Purpose and Scope

Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910.151 (c), and 29 CFR 1926.50 (g) [*Medical Services and First Aid*] require provision of suitable facilities for quick drenching or flushing of the eyes and body when employees may be exposed to injurious corrosive materials. Through the General Duty Clause of OSHA (Public Law 91-596), the CH2M HILL Plateau Remediation Company (CHPRC) applies consensus standard ANSI Z358.1 (*Emergency Eyewash and Shower Equipment*) for planning, design, construction, alteration, and acquisition specifications. The project/facility Occupational Safety and Industrial Hygiene organization may be consulted with for issues relating to this subject area that are not directly addressed by this document.

This Level 2 Requirements Document is applicable to CHPRC Team employees involved in CHPRC scope of work, and include the following types of equipment:

- Plumbed and self-contained showers.
- Plumbed and self-contained eyewash equipment.
- Eye/Face wash equipment.
- Hand-held drench hoses.
- Combination units.

Personal eyewash devices (e.g., squeeze bottles) which are used solely as supplementary support to plumbed and/or self-contained units, and decontamination showers/units, are excluded from the scope of these requirements.

2.0 REQUIREMENTS

2.1 Installation

NOTE: For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

#	Requirement	Type V or I	Source
1.	For installations of plumbed emergency eyewash and shower equipment, or in the provision of portable units, the design specifications of ANSI Z358.1 shall be followed. NOTE: For multiple installations, uniformity in equipment type and style selection is encouraged to avoid confusion in operating technique during an emergency.	I	ANSI Z358.1-2004
2.	Equipment shall be assembled and installed in accordance with manufacturer instructions.	I	ANSI Z358.1 - 2004; Sections 4.6.3, 5.4.2, 7.4.2, 8.4.2, and 9.4.3
3.	Equipment shall be located in work areas where eyes, face, and other body parts may be exposed to injurious chemicals.	I	29 CFR 1910.151 (c); 29 CFR 1926.50(g)

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#	Requirement	Type V or I	Source
4.	Equipment shall be installed or placed in well-lit, easily reachable locations to provide accessibility within a 10 second time frame.	I	ANSI Z358.1 - 2004; Sections 4.6.1, 5.4.4, 7.4.4, 8.4.3, and 9.4.1
5.	Emergency eyewash and shower stations shall be identified using a highly visible sign. NOTE: <i>Lights are an acceptable means for identification of installations completed prior to April 6, 1989, but are not recommended as the sole means for identification.</i>	I	ANSI Z358.1 - 2004; Sections 4.6.2, 5.4.5, 7.4.5, 8.4.3 and 9.4.2
6.	A water supply that is tepid/lukewarm in temperature shall be provided for plumbed units installed after April 16, 1998. NOTE 1: <i>Delivered water temperature for existing installations should not be at extremes that would reasonably be expected to prevent an employee from fully flushing the affected area(s) as a result of undue discomfort.</i> NOTE 2: <i>The 2004 date reflects the publication of the revised ANSI Z358.1 Standard. With this revision, ANSI has defined "tepid/lukewarm" to mean not higher than 38° C (100° F) and not lower than 15.5° C (60° F).</i>	I	ANSI Z358.1 - 2004; Sections 4.6.6, 5.4.6, 6.2.5, 7.4.6, 8.4.4, and 9.4.5
7.	New installations shall be tested to ensure proper operability.	I	ANSI Z358.1 - 2004; Sections 4.6.3, 5.4.2, 7.4.2, 8.4.2, and 9.4.3
8.	Plumbed and self contained eyewash equipment shall be capable of delivering flushing fluid to the eyes not less than 1.5 liters per minute (0.4 gpm) for at least 15 minutes	V	ANSI Z358.1 – 2004; Section 5.1.6

2.2 Maintenance and Pre-Use

#	Requirement	Type V or I	Source
1.	Equipment that may be exposed to cold weather temperatures shall be protected against freezing.	I	CRD O 433.1A, Section 2.b.3.r
2.	Where accumulation of airborne contaminants may deter proper fluid flow or operation, nozzles of plumbed and self-contained eyewash equipment, and eye/face wash equipment shall be protected.	I	OSHA General Duty Clause Public Law 91-596
3.	A clear path of travel shall be maintained to equipment stations.	I	29 CFR 1910.22 (a)

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#	Requirement	Type V or I	Source
4.	The area around equipment stations shall be maintained free of obstructions.	I	29 CFR 1910.22 (a)
5.	<p>Plumbed units shall be inspected and activated on a periodic basis to verify proper operation and to ensure design performance is maintained.</p> <p>NOTE 1: <i>Industry standards suggest activation on a weekly basis to verify proper operation and to flush debris and bacterial sediment.</i></p> <p>NOTE 2: <i>Industry practice suggests inspection at least annually to ensure design performance.</i></p> <p>NOTE 3: <i>The responsible occupational safety and health representative should be consulted to establish appropriate testing and inspection frequencies.</i></p>	I	CRD O 433.1A, Section 2.a.2
6.	Manufacturer instructions shall be used, where applicable, in developing specific maintenance, inspection, and testing criteria.	I	CRD O 433.1A, Section 2.b.3.e
7.	Repaired/modified installations shall be tested to ensure proper operability prior to placing out-of-service units back in service.	I	CRD O 433.1A, Section 2.b.3.h
8.	Shutoff valves installed between the sanitary water supply and the plumbed equipment in an "open" position shall be maintained during the performance of those work activities which require availability of emergency eyewash or shower equipment.	I	OSHA General Duty Clause Public Law 91-596

2.3 Training

#	Requirement	Type V or I	Source
1.	Affected employees shall be instructed in the location and proper use of the emergency eyewash and shower equipment located in their work areas.	I	29 CFR 1910.1200, (h)(3)
2.	Employees who are assigned to inspect and maintain emergency shower and eyewash equipment shall possess an adequate knowledge of manufacturer performance instructions.	I	CRD O 433.1A, Section 2.b.3.b

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3.0 SOURCES

3.1 Requirements

29 CFR 1910.22, *Walking-Working Surfaces (General Requirements)*

29 CFR 1910.151, *Medical Services and First Aid*

29 CFR 1910.1200, *Hazard Communications*

29 CFR 1926.50, *Medical Services and First Aid*

American National Standards Institute (ANSI) Z358.1 - 2004, *Emergency Eyewash and Shower Equipment*

DOE O 433.1A, *Maintenance Management Program for DOE Nuclear Facilities*, Contractor Requirements Document (CRD)

Occupational Safety and Health Act of 1970, *General Duty Clause*, Public Law 91-596

3.2 References

DOE G 420.1-1, *Non Reactor Nuclear Safety Design Criteria and Explosives Safety Criteria Guide For Use with DOE O 420.1, Facility Safety*